

Factors Influencing the Implementation of Screening and Brief Interventions for Alcohol Use in Primary Care Practices: A Systematic Review Protocol



Fatores Condicionantes da Implementação da Detecção Precoce e Intervenções Breves no Consumo Excessivo de Álcool nos Cuidados de Saúde Primários: Protocolo de Revisão Sistemática da Literatura

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ABSTRACT

Introduction: Alcohol is a leading risk factor contributing to the global burden of disease. National and international agencies recommend evidence-based screening and brief interventions in primary care settings in order to reduce alcohol consumption. However, the majority of primary care professionals do not routinely deliver such interventions.

Objective: To identify factors influencing general practitioners/family physicians' and primary care nurses' routine delivery of alcohol screening and brief intervention in adults.

Material and Methods: A systematic literature search will be carried out in the following electronic databases: Medline, CINAHL, CENTRAL, and PsycINFO. Two authors will independently abstract data and assess study quality using the NIH National Heart, Lung, and Blood Institute quality assessment tools for quantitative studies, and the CASP checklist for qualitative studies. A narrative synthesis of the findings will be provided, structured around the barriers and facilitators identified. Identified barriers and facilitators will be further analysed using the Behavioural Change Wheel/Theoretical Domains Framework.

Discussion: This review will describe the barriers to, and facilitators for, the implementation of alcohol screening and brief interventions by general practitioners/family physicians and nurses at primary care practices. By mapping the barriers and facilitators to the domains of the Behavioural Change Wheel/Theoretical Domains Framework, this review will also provide implementation researchers with a useful tool for selecting promising practitioner-oriented behavioural interventions for improving alcohol screening and brief intervention delivery in primary care.

Conclusion: This review will provide important information for implementing alcohol screening and brief intervention in primary health care.

Systematic Review Registration: PROSPERO CRD42016052681

Keywords: Alcohol Drinking; Alcoholism; Directive Counseling; Health Promotion; Mass Screening; Portugal; Primary Health Care

RESUMO

Introdução: O consumo de álcool é um importante fator de risco a nível mundial. Apesar de serem recomendadas por muitas instâncias nacionais e internacionais, a deteção e intervenção breve no consumo de álcool ainda não está integrada na prática da maioria dos profissionais de saúde dos Cuidados de Saúde Primários.

Objetivo: Identificar as barreiras e os facilitadores à implementação da deteção e intervenção breve nos consumos de álcool nos Cuidados de Saúde Primários por parte dos Médicos e Enfermeiros de Família.

Material e Métodos: Será realizada uma revisão sistemática da literatura nas seguintes bases de dados: Medline, CINAHL, CENTRAL, e PsycINFO. Dois autores irão, de forma independente, extrair os dados, e avaliar a qualidade dos estudos selecionados. A qualidade dos estudos quantitativos será avaliada através das *checklists* do NIH National Heart, Lung, and Blood Institute, enquanto a dos estudos qualitativos será avaliada através da *checklist* CASP. Os resultados serão apresentados numa síntese narrativa, estruturada em torno das barreiras e facilitadores identificados, e analisados à luz dos domínios teóricos da *Behavioural Change Wheel/Theoretical Domains Framework*.

Discussão: Esta revisão sistemática descreverá as barreiras e os facilitadores à implementação da deteção e intervenção breve nos consumos de álcool nos Cuidados de Saúde Primários. Ao estabelecer a ligação entre estes fatores e os diferentes domínios teóricos da *Behavioural Change Wheel/Theoretical Domains Framework*, esta revisão sistemática vai facilitar o desenho de programas que visem a implementação destas boas práticas neste nível de cuidados.

Conclusão: Esta revisão contribuirá com informação importante para a implementação da deteção e intervenção breve nos consumos de álcool nos Cuidados de Saúde Primários.

Registo: PROSPERO CRD42016052681

Palavras-chave: Aconselhamento Directivo; Alcoolismo; Consumo de Bebidas Alcoólicas; Cuidados de Saúde Primários; Portugal; Programas de Rastreio; Promoção da Saúde

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INTRODUCTION

Alcohol is a leading risk factor contributing to the global burden of disease.¹ The World Health Organization estimates that 3.3 million people die each year because of alcohol consumption.² This represents 5.9% of all deaths worldwide. Alcohol also contributes to more than 200 disease and injury conditions, accounting for 5.1% of the global burden of disease and injury. Alcohol-related harm increases exponentially with the average daily consumption,³ therefore even small reductions can substantially decrease the risk of dying due to alcohol.

Screening and brief interventions (SBI) in primary care settings has long been advocated for preventing harm from excessive alcohol use. Several randomized controlled trials and meta-analysis have found alcohol SBI to be highly effective, cost-effective, and even cost-saving.⁴⁻¹¹ However, there has been recent debate concerning the validity of this effectiveness evidence.^{12,13} Most trials use self-reported alcohol consumption as their primary outcome measure rather than alcohol-related morbidity or mortality problems, and such self-reported outcomes may be subject to social desirability bias or other research participation effects.^{14,15} Furthermore, the active ingredients of SBI have yet to be determined.^{16,17} Notwithstanding these discussions, it is clear that alcohol increases the risk of and/or exacerbates many conditions that present in primary care.^{3,18} Furthermore, of the many patients visiting primary care who are at-risk drinkers,¹⁹⁻²¹ few currently receive any alcohol-related advice or intervention from their doctor.²²⁻²⁸ They are therefore denied the opportunity to understand the risks and make an informed decision about whether or not to cut down.

Several studies have examined barriers and facilitators affecting whether or not primary care professionals address alcohol use with patients. Lack of training, lack of time, lack of motivation, and lack of suitable counselling materials are among the most commonly cited barriers^{23,29-37}; whereas having patients who seek advice for alcohol issues, more training, and ready availability of support services, screening and counselling materials are commonly reported facilitators.^{23,30,31,38} Whilst several studies have documented or tested training, financial or other interventions designed to increase the implementation of alcohol SBI in primary care,^{26,39} few are theoretically informed⁴⁰ and reporting of the content of training and follow up support is often poor.⁴¹ Johnson *et al* reviewed the barriers and facilitators for implementing alcohol screening and brief intervention in 2009,⁴² giving priority to studies judged to best inform the UK practice. The review reported on 47 articles focusing on different healthcare settings. Lack of resources, absence of training and support from management, and workload were the main barriers to implementation. Adequate resources, training and the identification of those at risk without stereotyping were pointed as the main facilitators. This review will update the Johnson *et al* review, employ a more comprehensive search strategy, and have an international focus.

Our review will also be theoretically informed as it is important to understand how identified barriers and facilitators fit with theoretical understandings of behaviour change in order to inform the design of implementation interventions that may have a higher chance of successfully changing practitioner behaviour. There are many theories of behaviour change, though with considerable overlap between them, and striking differences in terminology, definitions and key constructs.⁴³ Several frameworks have been proposed to overcome these limitations including⁴³⁻⁴⁶ the Behaviour Change Wheel (BCW), which is comprehensive, coherent and widely used. The BCW is linked to an overarching model of behaviour and can be further expanded by the Theoretical Domains Framework (TDF), which was derived from an analysis of 33 theories of behaviour change, and comprises fourteen domains consisting of 84 component constructs of behaviour change.⁴⁷ This review will therefore analyse the identified barriers and facilitators using the BCW/TDF system as outlined further in the methods section below.

OBJECTIVE

This review aims to identify factors influencing general practitioners/family physicians' and primary care nurses' routine delivery of alcohol screening and brief interventions in adults. The specific research questions we will address are:

1. What are the barriers to routine delivery of alcohol screening and brief interventions by general practitioners/family physicians and nurses in primary care settings?
2. What factors help to facilitate routine delivery of alcohol screening and brief interventions by general practitioners/family physicians and nurses in primary care settings?
3. How do the identified barriers and facilitators map to the BCW/TDF frameworks?

MATERIAL AND METHODS

The review methods are outlined here in accordance with the Preferred Reporting Items for Systematic Review and Meta-Analysis Protocols (PRISMA-P) statement^{48,49} [see Appendix 1 (PRISMA-P Checklist): <https://www.actamedicaportuguesa.com/revista/index.php/amp/article/view/9753/5312>].

Inclusion and exclusion criteria

Study designs. Studies with abstracts published in a peer-reviewed scientific journal which report primary data will be included; studies without abstracts and studies published as conference abstracts will be excluded. If more than one publication describing a single study and presenting the same data is found, then only the most recent publication will be included. The review will consider quantitative and qualitative studies. Quantitative studies will be included if they are randomized controlled trials, before-after studies with no control group, cohort, case-control, or

cross-sectional studies. Qualitative studies will be included if they use Delphi methodology, focus groups, in-depth interviews, or semi-structured interviews.

Participants. Studies will be included if the participants include general practitioners/family physicians or nurses working in primary care practices. 'Primary care practices' will be defined as follows, adapted from the definition of the American Academy of Family Physicians.⁵⁰ Primary care practices typically serve as the patient's first point of entry into the health care system and provide services such as health promotion, disease prevention, health maintenance, counselling, patient education, diagnosis and treatment of acute and chronic illnesses. Primary care practices are generally located in the community of the patients, thereby facilitating access to healthcare. The structure of the primary care practice may include a team of physicians and other health professionals.

Studies relating only to medical practitioners other than general practitioners/family physicians will be excluded. Studies relating only to medical practitioners or nurses not working in primary care practices, or only to other professionals working in primary care will also be excluded.

Interventions. The targeted intervention will be the implementation of activities aiming to reduce alcohol consumption, conducted in primary care practices, and defined as follows:

- a) early identification of patients who drink at a level deemed to merit intervention as defined by the authors;
- b) brief interventions, defined as one to four sessions of a structured conversation (e.g. 5 - 30 minutes each) about alcohol with patients from a).

Outcomes. The outcomes of interest in this review are barriers and facilitators potentially influencing the implementation of screening and brief interventions for alcohol use. Studies will be included if they report from primary data at least one clearly defined barrier or facilitator potentially influencing the implementation of the interventions as defined above. In this review, barriers are clearly defined factors that decrease the probability of the implementation of the intervention by general practitioners/family physicians or nurses working in primary care practices. Facilitators are clearly defined factors that increase the probability of the implementation of the intervention by general practitioners/family physicians or nurses working in primary care practices.

Studies will be excluded if they report on: implementation barriers and/or facilitators for patients with conditions that present rarely to primary care providers; factors influencing implementation on populations with specific co-morbidities such as HIV, autoimmune diseases, psychosis, personality disorders, post-traumatic stress or major anxiety disorders, dementia (list not exhaustive) and; factors influencing the implementation of the intervention on people who are less than 18 years of age, or in which this age group is included and no clear distinction can be made between the barriers to implementation in this age group and those aged 18 or above.

Setting. The intervention must be offered in a primary care practice (as defined above). All other settings will be excluded.

Language. Studies will be included if they are reported in any of the following languages: English, French, Spanish, and Portuguese. Studies in other languages will be excluded.

Information sources and search strategy

The following electronic databases will be searched, from onset of literature database until May 2016, for studies meeting the inclusion criteria stated above: MEDLINE, CINAHL, Cochrane Central Register of Controlled Trials (CENTRAL), and PsycINFO. The search strategy will be developed with a health information specialist (KA), based on a list of relevant keywords identified from an exploratory search of the literature and by exploring the Medical Subject Headings (MeSH terms) of the US National Library of Medicine. The final search will be performed by KA, after adapting the MEDLINE strategy to the syntax of the other databases [see Appendix 2 (Search strategy): <https://www.actamedicaportuguesa.com/revista/index.php/amp/article/view/9753/5313>]. To ensure literature saturation, we will scan the reference lists of relevant systematic reviews and meta-analysis identified through the search for potentially eligible papers.

Data management and study selection

The results of the literature search will be uploaded to Reference Manager Version 10 software. One reviewer will scan the titles and/or abstracts to eliminate duplicate results. Next, two reviewers will independently screen titles and abstracts of identified references. Studies will be excluded if they: 1) do not have a title and an abstract; 2) are not peer-reviewed and published in an academic journal in the public domain; 3) are not published in one of the following languages: English, French, Spanish, or Portuguese; 4) do not focus on alcohol; 5) do not have a qualitative or quantitative methodology as defined above; 6) do not focus on the implementation of the intervention as defined above in the general primary care adult population or; 7) do not focus on barriers and/or facilitators reported by general practitioners/family physicians or nurses working in primary care practice. Disagreements will be resolved through consensus. If consensus cannot be reached, a third reviewer will be contacted. Full text copies of all studies meeting inclusion criteria and of those with unclear eligibility based on title and abstract will be sought and the selection process repeated. Reasons for excluding papers from the analysis will be recorded in a table describing the characteristics of the studies excluded. Reviewers will not be blinded for any aspect of the studies identified and selected. This review will be reported in accordance with the PRISMA guidelines which will include a flow diagram (Fig. 1) and a table detailing the studies selected.⁵¹⁻⁵²

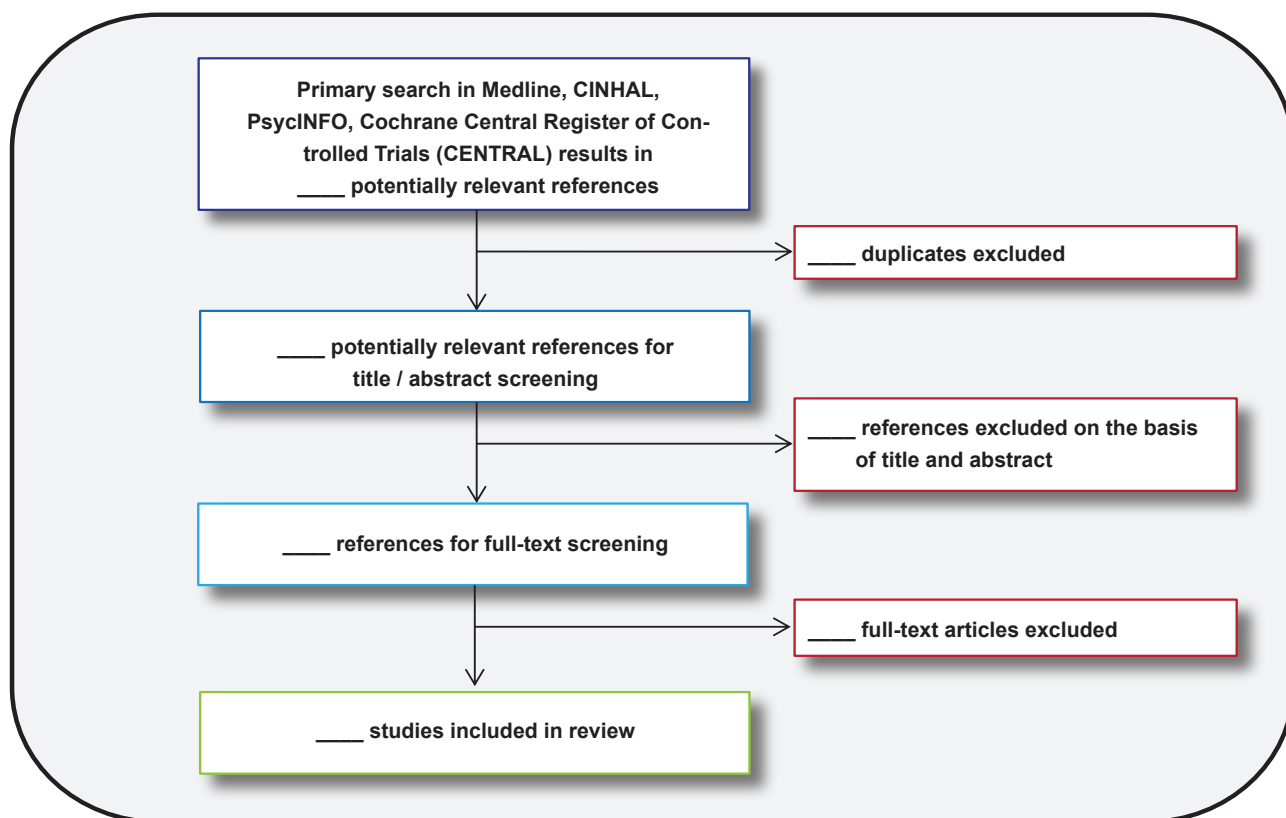


Figure 1 – Flow diagram of screening process

Data extraction

Two authors will independently extract data to a data extraction form specifically designed for this review and later entered into a Microsoft Excel sheet. Disagreements will be resolved as described above.

Studies will be grouped according to whether they are quantitative or qualitative. Data to be extracted will include: first author; year of publication; title; country of origin; language of publication; main objective of the study; study design; study sample (sampling strategy, type and number of care providers, response/attrition rate); operational definition of identified barriers and facilitators studied; main results; relation with outcomes or process variables in intervention studies.

Assessment of methodological quality

To inform our synthesis of the evidence a critical appraisal of the validity of the included qualitative and quantitative studies will be conducted. Two reviewers will independently assess the methodological quality of the studies selected for the systematic review. Disagreements will be resolved through consensus. If consensus cannot be reached, a third reviewer will be contacted.

Quantitative studies will be appraised with the NIH National Heart, Lung, and Blood Institute quality assessment tools for controlled intervention studies, before-after (pre-post) studies with no control group, observational cohort and cross-sectional studies and case-controlled studies.⁵³ The quality of qualitative studies will be assessed with the critical appraisal skills program (CASP) qualitative

research checklist.⁵⁴ As this review will consider quantitative and qualitative studies, we will additionally appraise all selected studies as recommended by the Supplementary Guidance for Inclusion of Qualitative Research in Cochrane Systematic Reviews of Interventions.⁵⁵

Data synthesis

The review will start by reporting the results of the literature searched. PRISMA flowcharts and tables will be used to present reasons for inclusion and exclusion, as well as to describe the methodology of studies included. Next, a descriptive analysis of the barriers and facilitators extracted from the studies selected will be conducted. The classification of the retained factors will be achieved through consensus between two independent research team members. If any disagreement persists a third member of the research team will be contacted. The results of the review will be reported in a table and a narrative synthesis of the findings will be provided, structured around the barriers and facilitators identified, the professional group, the population target group, and the alcohol related intervention (detection/advice/follow up). The barriers and facilitators will be further analysed using the BCW/TDF framework. Due to the nature of the review, we do not anticipate conducting a meta-analysis.

DISCUSSION

This systematic review will describe the barriers and facilitators for implementing alcohol screening and brief interventions by general practitioners/family physicians

and nurses in primary care practices. Knowing the factors influencing the implementation of alcohol screening and brief advice in primary care is important for designing effective implementation programs. By mapping the barriers and facilitators to the domains of the BCW/TDF framework, this review will also provide implementation researchers with a useful tool for selecting promising practitioner-oriented behavioural interventions for improving alcohol screening and brief intervention. If possible, we will use this approach to analyse if the barriers and facilitators suggest gaps in current theory and/or if there are current theoretical concepts not reflected in the literature.

Due to the mixed methods in the studies under review, and our emphasis on identifying, rather than quantifying, the impact of specific barriers and facilitators, data will not be pooled quantitatively or meta-analysed. For the same reason, studies will not be excluded based on their quality, but the quality of the included studies will be assessed to enable those using the findings to better understand and assess the value of the findings from each study and overall.

CONCLUSION

This review will identify gaps in empirical and theoretical understanding about the barriers and facilitators of the delivery of alcohol SBI in primary care practices. The findings will be of interest to those designing, commissioning or implementing interventions to promote such interventions in primary care, including training. It will also help to open one of the 'black boxes' that has been identified as meriting further investigation in relation to alcohol SBI: "what should primary care clinicians say and how should they say it when addressing alcohol consumption with patients; and secondly, what training do they need to enable them to do so effectively?".⁵⁶ Randomized controlled trials investigating the effectiveness

of interventions need to address barriers and facilitators to recruit primary care practitioners and ensure they deliver the interventions under study; those investigating training should be designing the training based on the best available evidence. A comprehensive and up to date understanding of the barriers and facilitators relating to alcohol SBI delivery is therefore important for both research and practice in this field.

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PROTECTION OF HUMANS AND ANIMALS

The authors declare that the procedures were followed according to the regulations established by the Clinical Research and Ethics Committee and to the Helsinki Declaration of the World Medical Association.

DATA CONFIDENTIALITY

The authors declare having followed the protocols in use at their working center regarding patients' data publication.

CONFLICTS OF INTEREST

None.

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PRISMA-P 2015 Checklist

This checklist has been adapted for use with systematic review protocol submissions to BioMed Central journals from Table 3 in Moher D et al: Preferred reporting items for systematic review and meta-analysis protocols (PRISMA-P) 2015 statement. *Systematic Reviews* 2015 4:1

Section/topic	#	Checklist item	Information reported		Page
			Yes	No	
ADMINISTRATIVE INFORMATION					
Title					
Identification	1a	Identify the report as a protocol of a systematic review	<input checked="" type="checkbox"/>	<input type="checkbox"/>	45
Update	1b	If the protocol is for an update of a previous systematic review, identify as such	<input type="checkbox"/>	<input type="checkbox"/>	Not applicable
Registration	2	If registered, provide the name of the registry (e.g., PROSPERO) and registration number in the Abstract	<input checked="" type="checkbox"/>	<input type="checkbox"/>	45
Authors					
Contact	3a	Provide name, institutional affiliation, and e-mail address of all protocol authors; provide physical mailing address of corresponding author	<input checked="" type="checkbox"/>	<input type="checkbox"/>	45
Contributions	3b	Describe contributions of protocol authors and identify the guarantor of the review	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Amendments	4	If the protocol represents an amendment of a previously completed or published protocol, identify as such and list changes; otherwise, state plan for documenting important protocol amendments	<input type="checkbox"/>	<input type="checkbox"/>	Not applicable
Support					
Sources	5a	Indicate sources of financial or other support for the review	<input checked="" type="checkbox"/>	<input type="checkbox"/>	49
Sponsor	5b	Provide name for the review funder and/or sponsor	<input type="checkbox"/>	<input type="checkbox"/>	Not applicable
Role of sponsor/funder	5c	Describe roles of funder(s), sponsor(s), and/or institution(s), if any, in developing the protocol	<input type="checkbox"/>	<input type="checkbox"/>	Not applicable
INTRODUCTION					
Rationale	6	Describe the rationale for the review in the context of what is already known	<input checked="" type="checkbox"/>	<input type="checkbox"/>	46
Objectives	7	Provide an explicit statement of the question(s) the review will address with reference to participants, interventions, comparators, and outcomes (PICO)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	46

Section/topic	#	Checklist item	Information reported		Page
			Yes	No	
METHODS					
Eligibility criteria	8	Specify the study characteristics (e.g., PICO, study design, setting, time frame) and report characteristics (e.g., years considered, language, publication status) to be used as criteria for eligibility for the review	<input checked="" type="checkbox"/>	<input type="checkbox"/>	46-47
Information sources	9	Describe all intended information sources (e.g., electronic databases, contact with study authors, trial registers, or other grey literature sources) with planned dates of coverage	<input checked="" type="checkbox"/>	<input type="checkbox"/>	47
Search strategy	10	Present draft of search strategy to be used for at least one electronic database, including planned limits, such that it could be repeated	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Appendix 2
STUDY RECORDS					
Data management	11a	Describe the mechanism(s) that will be used to manage records and data throughout the review	<input checked="" type="checkbox"/>	<input type="checkbox"/>	47
Selection process	11b	State the process that will be used for selecting studies (e.g., two independent reviewers) through each phase of the review (i.e., screening, eligibility, and inclusion in meta-analysis)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	47-48
Data collection process	11c	Describe planned method of extracting data from reports (e.g., piloting forms, done independently, in duplicate), any processes for obtaining and confirming data from investigators	<input checked="" type="checkbox"/>	<input type="checkbox"/>	48
Data items	12	List and define all variables for which data will be sought (e.g., PICO items, funding sources), any pre-planned data assumptions and simplifications	<input checked="" type="checkbox"/>	<input type="checkbox"/>	48
Outcomes and prioritization	13	List and define all outcomes for which data will be sought, including prioritization of main and additional outcomes, with rationale	<input checked="" type="checkbox"/>	<input type="checkbox"/>	47-48
Risk of bias in individual studies	14	Describe anticipated methods for assessing risk of bias of individual studies, including whether this will be done at the outcome or study level, or both; state how this information will be used in data synthesis	<input checked="" type="checkbox"/>	<input type="checkbox"/>	48
DATA					
Synthesis	15a	Describe criteria under which study data will be quantitatively synthesized	<input type="checkbox"/>	<input type="checkbox"/>	Not applicable
	15b	If data are appropriate for quantitative synthesis, describe planned summary measures, methods of handling data, and methods of combining data from studies, including any planned exploration of consistency (e.g., I^2 , Kendall's tau)	<input type="checkbox"/>	<input type="checkbox"/>	Not applicable
	15c	Describe any proposed additional analyses (e.g., sensitivity or subgroup analyses, meta-regression)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	48
	15d	If quantitative synthesis is not appropriate, describe the type of summary planned	<input checked="" type="checkbox"/>	<input type="checkbox"/>	48

Section/topic	#	Checklist item	Information reported		Page
			Yes	No	
Meta-bias(es)	16	Specify any planned assessment of meta-bias(es) (e.g., publication bias across studies, selective reporting within studies)	<input type="checkbox"/>	<input type="checkbox"/>	Not applicable
Confidence in cumulative evidence	17	Describe how the strength of the body of evidence will be assessed (e.g., GRADE)	<input type="checkbox"/>	<input type="checkbox"/>	Not applicable

Additional File 2 – Electronic search strategy for the retrieval of studies from multiple databases

Databases	Search strategy
Medline search strategy search = ____	<ol style="list-style-type: none"> 1 advice.tw. 2 Attitude of Health Personnel/ 3 (behavio?r* adj1 chang*).tw. 4 (brief adj advice).tw. 5 (brief adj intervention*).tw. 6 Cognitive Therapy/ 7 (cognitive adj therap*).tw. 8 Counseling/ 9 counsel*.tw. 10 detection.tw. 11 exp Directive Counseling/ 12 (early adj1 identif*).tw. 13 (early adj1 intervention*).tw. 14 Health Communication/ 15 Health Promotion/ 16 identification.tw. 17 implementation.tw. 18 Interviews as Topic/ 19 Mass Screening/ 20 Medical History Taking/ 21 (minimal adj intervention*).tw. 22 (motivat* adj intervention*).tw. 23 (motivat* adj interview*).tw. 24 Patient Education as Topic/ 25 Physician-Patient Relations/ 26 Nurse-Patient Relations/ 27 Physician's Practice Patterns/ 28 Physician's Role/ 29 Practice Patterns, Nurses'/ 30 Practice Patterns, Physicians'/ 31 exp Psychotherapy/ 32 Nurse's Role/ 33 screening.tw. 34 Secondary Prevention/ 35 (secondary adj prevention).tw. 36 Substance Abuse Detection/ 37 "Surveys and Questionnaires"/ 38 1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12 or 13 or 14 or 15 or 16 or 17 or 18 or 19 or 20 or 21 or 22 or 23 or 24 or 25 or 26 or 27 or 28 or 29 or 30 or 31 or 32 or 33 or 34 or 35 or 36 or 37 39 abuse.tw. 40 addiction.tw.

- 41 (alcohol* adj1 dependen*).tw.
- 42 exp Alcohol drinking/
- 43 (alcohol* adj1 drinking).tw.
- 44 (alcohol* adj2 problem*).tw.
- 45 Alcohol-Induced Disorders/
- 46 Alcohol-Related Disorders/
- 47 Alcoholic Intoxication/
- 48 alcoholism.tw.
- 49 Alcoholism/
- 50 (at-risk adj1 drink*).tw.
- 51 Binge Drinking/
- 52 (bing* adj drink*).tw.
- 53 dependence.tw.
- 54 drinker*.tw.
- 55 Drinking Behavior/
- 56 (drink* adj behavio?r*).tw.
- 57 Drinking/
- 58 (excessiv* adj1 drink*).tw.
- 59 (harmful* adj1 drink*).tw.
- 60 (hazardous adj1 drink*).tw.
- 61 misus*.tw.
- 62 (problem* adj1 drink*).tw.
- 63 (risk* adj1 drink*).tw.
39 or 40 or 41 or 42 or 43 or 44 or 45 or 46 or 47 or 48 or 49 or
64 50 or 51 or 52 or 53 or 54 or 55 or 56 or 57 or 58 or 59 or 60 or
61 or 62 or 63
- 65 Education, medical/
- 66 Education, medical, continuing/
- 67 Education, nursing/
- 68 Education, nursing, continuing/
- 69 (family adj doctor*).tw.
- 70 (family adj medicine).tw.
- 71 Family Nurse Practitioners/
- 72 Family Practice/
- 73 (family adj practice*).tw.
- 74 General Practice/
- 75 (general adj practice*).tw.
- 76 General Practitioners/
- 77 (general adj practitioner*).tw.
- 78 Health Personnel/ed [Education]
- 79 Nurses/
- 80 Nurse Practitioners/
- 81 (practice adj nurse*).tw.
- 82 Physicians, Primary Care/
- 83 Physicians, Family/

CINAHL search strategy search = ____

- 84 Physicians/
- 85 Primary Health Care/
- 86 (primary adj care).tw.
- 87 (primary adj health*).tw.
- 65 or 66 or 67 or 68 or 69 or 70 or 71 or 72 or 73 or 74 or 75 or
- 88 76 or 77 or 78 or 79 or 80 or 81 or 82 or 83 or 84 or 85 or 86 or
- 87
- 89 38 and 64 and 88
- 1 TI (advice) OR AB (advice)
- 2 (MH "Attitude of Health Personnel") OR (MH "Physician Attitudes") OR (MH "Nurse Attitudes")
- 3 TI (behavio#r* N1 chang*) OR AB (behavio#r* N1 chang*)
- 4 TI (brief N1 advice) OR AB (brief N1 advice)
- 5 TI (brief N1 intervention*) OR AB (brief N1 intervention*)
- 6 (MH "Cognitive Therapy")
- 7 TI (cognitive N1 therap*) OR AB (cognitive N1 therap*)
- 8 (MH "Counseling")
- 9 TI (counsel*) OR AB (counsel*)
- 10 TI (detection) OR AB (detection)
- 11 TI (early N1 identif*) OR AB (early N1 identif*)
- 12 TI (early N1 intervention*) OR AB (early N1 intervention*)
- 13 (MH "Health Promotion")
- 14 TI (identification) OR AB (identification)
- 15 TI (implementation) OR AB (implementation)
- 16 (MH "Interviews+")
- 17 (MH "Health Screening+")
- 18 (MH "Patient Assessment") OR (MH "Nursing Assessment")
- 19 (MH "Patient History Taking")
- 20 TI (minimal N1 intervention*) OR AB (minimal N1 intervention*)
- 21 TI (motivat* N1 intervention*) OR AB (motivat* N1 intervention*)
- 22 TI (motivat* N1 interview*) OR AB (motivat* N1 interview*)
- 23 (MH "Motivational Interviewing")
- 24 (MH "Patient Education")
- 25 (MH "Professional-Patient Relations") OR (MH "Physician-Patient Relations")
- 26 MH "Nurse-Patient Relations"
- 27 (MH "Physician's Role")
- 28 (MH "Practice Patterns")
- 29 (MH "Psychotherapy+")
- 30 (MH "Nursing Role")
- 31 TI (screening) OR AB (screening)
- 32 (MH "Recurrence/PC")
- 33 TI (secondary N1 prevention) OR AB (secondary N1 prevention)
- 34 (MH "Substance Abuse Detection+")
- 35 (MH "Surveys") OR (MH "Questionnaires+")

- 36 S1 OR S2 OR S3 OR S4 OR S5 OR S6 OR S7 OR S8 OR S9 OR S10 OR S11 OR S12 OR S13 OR S14 OR S15 OR S16 OR S17 OR S18 OR S19 OR S20 OR S21 OR S22 OR S23 OR S24 OR S25 OR S26 OR S27 OR S28 OR S29 OR S30 OR S31 OR S32 OR S33 OR S34 OR S35
- 37 TI (abuse) OR AB (abuse)
- 38 TI (addiction) OR AB (addiction)
- 39 TI (alcohol* N1 dependen*) OR AB (alcohol* N1 dependen*)
- 40 (MH "Alcohol Abuse")
- 41 (MH "Alcohol Drinking+")
- 42 TI (alcohol* N1 drinking) OR AB (alcohol* N1 drinking)
- 43 TI (alcohol* N2 problem*) OR AB (alcohol* N2 problem*)
- 44 (MH "Alcohol-Induced Disorders, Nervous System")
- 45 (MH "Alcohol-Related Disorders+")
- 46 (MH "Alcoholic Intoxication+")
- 47 (MH "Alcoholics")
- 48 TI (alcoholism) OR AB (alcoholism)
- 49 (MH "Alcoholism")
- 50 TI (at-risk N1 drink*) OR AB (at-risk N1 drink*)
- 51 (MH "Binge Drinking")
- 52 TI (bing* N1 drink*) OR AB (bing* N1 drink*)
- 53 TI (dependence) OR AB (dependence)
- 54 TI (drinker*) OR AB (drinker*)
- 55 MH (Drinking Behavior)
- 56 TI (drink* N1 behavio#r*) OR AB (drink* N1 behavio#r*)
- 57 TI (excessiv* N1 drink*) OR AB (excessiv* N1 drink*)
- 58 TI (harmful* N1 drink*) OR AB (harmful* N1 drink*)
- 59 TI (hazardous N1 drink*) OR AB (hazardous N1 drink*)
- 60 TI (misus*) OR AB (misus*)
- 61 TI (problem* N1 drink*) OR AB (problem* N1 drink*)
- 62 TI (risk* N1 drink*) OR AB (risk* N1 drink*)
- 63 S37 OR S38 OR S39 OR S40 OR S41 OR S42 OR S43 OR S44 OR S45 OR S46 OR S47 OR S48 OR S49 OR S50 OR S51 OR S52 OR S53 OR S54 OR S55 OR S56 OR S57 OR S58 OR S59 OR S60 OR S61 OR S62
- 64 (MH "Education, Medical+")
- 65 (MH "Education, Medical, Continuing")
- 66 (MH "Education, Nursing+")
- 67 (MH "Education, Nursing, Continuing")
- 68 TI (family N1 doctor*) OR AB (family N1 doctor*)
- 69 TI (family N1 medicine) OR AB (family N1 medicine)
- 70 (MH "Family Nurse Practitioners")
- 71 (MH "Family Practice")
- 72 TI (family N1 practice*) OR AB (family N1 practice*)
- 73 TI (general N1 practice*) OR AB (general N1 practice*)
- 74 TI (general N1 practitioner*) OR AB (general N1 practitioner*)
- 75 (MH "Health Personnel/ED")
- 76 (MH "Nurses")

PsycINFO search strategy search = ____

- 77 (MH "Nurse Practitioners+")
- 78 TI (practice N1 nurse*) OR AB (practice N1 nurse*)
- 79 (MH "Physicians, Family")
- 80 (MH "Physicians")
- 81 (MH "Primary Health Care")
- 82 TI (primary N1 care) OR AB (primary N1 care)
- 83 TI (primary N1 health*) OR AB (primary N1 health*)
- 84 S64 OR S65 OR S66 OR S67 OR S68 OR S69 OR S70 OR S71 OR S72
OR S73 OR S74 OR S75 OR S76 OR S77 OR S78 OR S79 OR S80 OR
S81 OR S82 OR S83
- 85 S36 AND S63 AND S84
- 1 TI (advice) OR AB (advice)
- 2 (DE "Health Personnel Attitudes")
- 3 TI (behavio#r* N1 chang*) OR AB (behavio#r* N1 chang*)
- 4 TI (brief N1 advice) OR AB (brief N1 advice)
- 5 TI (brief N1 intervention*) OR AB (brief N1 intervention*)
- 6 (DE "Cognitive Therapy")
- 7 TI (cognitive N1 therap*) OR AB (cognitive N1 therap*)
- 8 (DE "Counseling")
- 9 TI (counsel*) OR AB (counsel*)
- 10 TI (detection) OR AB (detection)
- 11 TI (early N1 identif*) OR AB (early N1 identif*)
- 12 TI (early N1 intervention*) OR AB (early N1 intervention*)
- 13 (DE "Health Promotion")
- 14 TI (identification) OR AB (identification)
- 15 TI (implementation) OR AB (implementation)
- 16 (DE "Interviews") OR (DE "Interview Schedules")
- 17 DE "Health Screening" OR DE "Physical Examination"
- 18 (DE "Patient History")
- 19 TI (minimal N1 intervention*) OR AB (minimal N1 intervention*)
- 20 TI (motivat* N1 intervention*) OR AB (motivat* N1
intervention*)
- 21 TI (motivat* N1 interview*) OR AB (motivat* N1 interview*)
- 22 (DE "Motivational Interviewing")
- 23 (DE "Client Education")
- 24 (DE "Therapeutic Processes")
- 25 (DE "Professional Role")
- 26 (DE "Health Care Delivery")
- 27 (DE "Psychotherapy" OR DE "Adlerian Psychotherapy" OR DE
"Adolescent Psychotherapy" OR DE "Affirmative Therapy" OR DE
"Analytical Psychotherapy" OR DE "Autogenic Training" OR DE
"Behavior Therapy" OR DE "Brief Psychotherapy" OR DE "Brief
Relational Therapy" OR DE "Child Psychotherapy" OR DE "Client
Centered Therapy" OR DE "Cognitive Behavior Therapy" OR DE
"Conversion Therapy" OR DE "Eclectic Psychotherapy" OR DE
"Emotion Focused Therapy" OR DE "Existential Therapy" OR DE
"Experiential Psychotherapy" OR DE "Expressive Psychotherapy"

OR DE "Eye Movement Desensitization Therapy" OR DE "Feminist Therapy" OR DE "Geriatric Psychotherapy" OR DE "Gestalt Therapy" OR DE "Group Psychotherapy" OR DE "Guided Imagery" OR DE "Humanistic Psychotherapy" OR DE "Hypnotherapy" OR DE "Individual Psychotherapy" OR DE "Insight Therapy" OR DE "Integrative Psychotherapy" OR DE "Interpersonal Psychotherapy" OR DE "Logotherapy" OR DE "Narrative Therapy" OR DE "Network Therapy" OR DE "Persuasion Therapy" OR DE "Primal Therapy" OR DE "Psychoanalysis" OR DE "Psychodrama" OR DE "Psychodynamic Psychotherapy" OR DE "Psychotherapeutic Counseling" OR DE "Rational Emotive Behavior Therapy" OR DE "Reality Therapy" OR DE "Relationship Therapy" OR DE "Solution Focused Therapy" OR DE "Supportive Psychotherapy" OR DE "Transactional Analysis")

28 TI (screening) OR AB (screening)

29 (DE "Relapse Prevention")

30 TI (secondary N1 prevention) OR AB (secondary N1 prevention)

31 DE "Drug Usage Screening"

32 DE "Questionnaires" OR DE "General Health Questionnaire" OR DE "Surveys"

33 S1 OR S2 OR S3 OR S4 OR S5 OR S6 OR S7 OR S8 OR S9 OR S10 OR S11 OR S12 OR S13 OR S14 OR S15 OR S16 OR S17 OR S18 OR S19 OR S20 OR S21 OR S22 OR S23 OR S24 OR S25 OR S26 OR S27 OR S28 OR S29 OR S30 OR S31 OR S32

34 TI (abuse) OR AB (abuse)

35 TI (addiction) OR AB (addiction)

36 TI (alcohol* N1 dependen*) OR AB (alcohol* N1 dependen*)

37 DE "Alcohol Abuse"

38 DE "Alcohol Drinking Patterns" OR DE "Social Drinking"

39 TI (alcohol* N1 drinking) OR AB (alcohol* N1 drinking)

40 TI (alcohol* N2 problem*) OR AB (alcohol* N2 problem*)

41 (DE "Alcoholic Psychosis" OR DE "Alcoholic Hallucinosi") OR DE "Fetal Alcohol Syndrome" OR DE "Cirrhosis (Liver)")

42 DE "Alcohol Intoxication" OR DE "Chronic Alcoholic Intoxication" OR DE "Acute Alcoholic Intoxication"

43 TI (alcoholism) OR AB (alcoholism)

44 DE "Alcoholism"

45 TI (at-risk N1 drink*) OR AB (at-risk N1 drink*)

46 DE "Binge Drinking"

47 TI (bing* N1 drink*) OR AB (bing* N1 drink*)

48 TI (dependence) OR AB (dependence)

49 TI (drinker*) OR AB (drinker*)

50 DE "Drinking Behavior"

51 TI (drink* N1 behavio#r*) OR AB (drink* N1 behavio#r*)

52 TI (excessiv* N1 drink*) OR AB (excessiv* N1 drink*)

53 TI (harmful* N1 drink*) OR AB (harmful* N1 drink*)

54 TI (hazardous N1 drink*) OR AB (hazardous N1 drink*)

55 TI (misus*) OR AB (misus*)

56 TI (problem* N1 drink*) OR AB (problem* N1 drink*)

57 TI (risk* N1 drink*) OR AB (risk* N1 drink*)
 58 S34 OR S35 OR S36 OR S37 OR S38 OR S39 OR S40 OR S41 OR S42
 OR S43 OR S44 OR S45 OR S46 OR S47 OR S48 OR S49 OR S50 OR
 S51 OR S52 OR S53 OR S54 OR S55 OR S56 OR S57
 59 DE "Medical Education" OR DE "Medical Internship" OR DE
 "Medical Residency" OR DE "Psychiatric Training"
 60 DE "Continuing Education"
 61 DE "Nursing Education"
 62 TI (family N1 doctor*) OR AB (family N1 doctor*)
 63 TI (family N1 medicine) OR AB (family N1 medicine)
 64 TI (family N1 practice*) OR AB (family N1 practice*)
 65 TI (general N1 practice*) OR AB (general N1 practice*)
 66 DE "General Practitioners"
 67 TI (general N1 practitioner*) OR AB (general N1 practitioner*)
 68 DE "Nurses"
 69 TI (practice N1 nurse*) OR AB (practice N1 nurse*)
 70 DE "Family Physicians"
 71 DE "Physicians"
 72 DE "Primary Health Care"
 73 TI (primary N1 care) OR AB (primary N1 care)
 74 TI (primary N1 health*) OR AB (primary N1 health*)
 75 S59 OR S60 OR S61 OR S62 OR S63 OR S64 OR S65 OR S66 OR S67
 OR S68 OR S69 OR S70 OR S71 OR S72 OR S73 OR S74
 76 S33 AND S58 AND S75

CENTRAL search strategy search = ____

1 "advice" in Trials
 2 MeSH descriptor: [Attitude of Health Personnel] this term only
 3 (behavio*r* near/1 chang*) in Trials
 4 (brief near/1 advice) in Trials
 5 (brief near/1 intervention*) in Trials
 6 MeSH descriptor: [Cognitive Therapy] this term only
 7 (cognitive near/1 therap*) in Trials
 8 MeSH descriptor: [Counseling] this term only
 9 (counsel*) in Trials
 10 (detection) in Trials
 11 MeSH descriptor: [Directive Counseling] explode all trees
 12 (early near/1 identif*) in Trials
 13 (early near/1 intervention*) in Trials
 14 MeSH descriptor: [Health Communication] this term only
 15 MeSH descriptor: [Health Promotion] this term only
 16 (identification) in Trials
 17 (implementation) in Trials
 18 MeSH descriptor: [Interviews as Topic] this term only
 19 MeSH descriptor: [Mass Screening] this term only
 20 MeSH descriptor: [Medical History Taking] this term only
 21 (minimal near/1 intervention*) in Trials
 22 (motivat* near/1 intervention*) in Trials

- 23 (motivat* near/1 interview*) in Trials
- 24 MeSH descriptor: [Patient Education as Topic] this term only
- 25 MeSH descriptor: [Physician-Patient Relations] this term only
- 26 MeSH descriptor: [Nurse-Patient Relations] this term only
- 27 MeSH descriptor: [Practice Patterns, Physicians'] this term only
- 28 MeSH descriptor: [Physician's Role] this term only
- 29 MeSH descriptor: [Practice Patterns, Nurses'] this term only
- 30 MeSH descriptor: [Nurse's Role] this term only
- 31 MeSH descriptor: [Psychotherapy] explode all trees
- 32 (screening) in Trials
- 33 MeSH descriptor: [Secondary Prevention] this term only
- 34 (secondary near/1 prevention) in Trials
- 35 MeSH descriptor: [Substance Abuse Detection] this term only
- 36 MeSH descriptor: [Surveys and Questionnaires] this term only
- 37 #1 or #2 or #3 or #4 or #5 or #6 or #7 or #8 or #9 or #10 or #11 or #12 or #13 or #14 or #15 or #16 or #17 or #18 or #19 or #20 or #21 or #22 or #23 or #24 or #25 or #26 or #27 or #28 or #29 or #30 or #31 or #32 or #33 or #34 or #35 or #36 in Trials
- 38 (abuse) in Trials
- 39 (addiction) in Trials
- 40 (alcohol* near/1 dependen*) in Trials
- 41 MeSH descriptor: [Alcohol Drinking] explode all trees
- 42 (alcohol* near/1 drinking) in Trials
- 43 (alcohol* near/2 problem*) in Trials
- 44 MeSH descriptor: [Alcohol-Induced Disorders] this term only
- 45 MeSH descriptor: [Alcohol-Related Disorders] this term only
- 46 MeSH descriptor: [Alcoholic Intoxication] this term only
- 47 (alcoholism) in Trials
- 48 MeSH descriptor: [Alcoholism] this term only
- 49 (at-risk near/1 drink*) in Trials
- 50 MeSH descriptor: [Binge Drinking] this term only
- 51 (bing* near/1 drink*) in Trials
- 52 (dependence) in Trials
- 53 (drinker*) in Trials
- 54 MeSH descriptor: [Drinking Behavior] this term only
- 55 (drink* near/1 behavio*r*) in Trials
- 56 MeSH descriptor: [Drinking] this term only
- 57 (excessiv* near/1 drink*) in Trials
- 58 (harmful* near/1 drink*) in Trials
- 59 (hazardous near/1 drink*) in Trials
- 60 (misus*) in Trials
- 61 (problem* near/1 drink*) in Trials
- 62 (risk* near/1 drink*) in Trials
- 63 #38 or #39 or #40 or #41 or #42 or #43 or #44 or #45 or #46 or #47 or #48 or #49 or #50 or #51 or #52 or #53 or #54 or #55 or #56 or #57 or #58 or #59 or #60 or #61 or #62 in Trials

- 64 MeSH descriptor: [Education, Medical] this term only
 - 65 MeSH descriptor: [Education, Medical, Continuing] this term only
 - 66 MeSH descriptor: [Education, Nursing] this term only
 - 67 MeSH descriptor: [Education, Nursing, Continuing] this term only
 - 68 (family near/1 doctor*) in Trials
 - 69 (family near/1 medicine) in Trials
 - 70 MeSH descriptor: [Family Nurse Practitioners] this term only
 - 71 MeSH descriptor: [Family Practice] this term only
 - 72 (family near/1 practice*) in Trials
 - 73 MeSH descriptor: [General Practice] this term only
 - 74 (general near/1 practice*) in Trials
 - 75 MeSH descriptor: [General Practitioners] this term only
 - 76 (general near/1 practitioner*) in Trials
 - 77 MeSH descriptor: [Health Personnel] this term only and with
qualifier(s): [Education - ED]
 - 78 MeSH descriptor: [Nurses] this term only
 - 79 MeSH descriptor: [Nurse Practitioners] this term only
 - 80 (practice near/1 nurse*) in Trials
 - 81 MeSH descriptor: [Physicians, Primary Care] this term only
 - 82 MeSH descriptor: [Physicians, Family] this term only
 - 83 MeSH descriptor: [Physicians] this term only
 - 84 MeSH descriptor: [Primary Health Care] this term only
 - 85 (primary near/1 care) in Trials
 - 86 (primary near/1 health*) in Trials
 - 87 #64 or #65 or #66 or #67 or #68 or #69 or #70 or #71 or #72 or
#73 or #74 or #75 or #76 or #77 or #78 or #79 or #80 or #81 or
#82 or #83 or #84 or #85 or #86 in Trials
 - 88 #37 and #63 and #87 in Trials
-